

CLAIMS

1. - 6. (Cancelled)

7. (Previously presented) A semi-automatic system for the manufacture of large electrical induction coils, comprising:

a control unit configured to receive measurements related to an electrical induction coil to be formed;

a pressure head operably connected to the control unit and mounted on a support on which the pressure head pivots between a resting position and a working position, wherein a size of the coil to be formed is known by the control unit during manufacture based upon a comparison by the control unit of a real position of at least a portion of the pressure head against a theoretical position of the at least a portion of the pressure head as determined by the control unit from the measurements, the pressure head having a vertical axle and a horizontal axle;

at least one vertical wheel mounted on the vertical axle and positioned to accept a conductor material and regulate height and flatness in a coil formed in the conductor material, wherein the at least one vertical wheel comprises at least one auxiliary horizontal disc positioned such that when the conductor material is fed into the pressure head the conductor material maintains contact with the at least one vertical wheel;

at least one horizontal wheel mounted on the horizontal axle positioned to accept the conductor material and position the conductor material on top of a previously formed coil;

at least one hydraulic cylinder attached to the vertical and horizontal axles, the hydraulic cylinder operably connected to the control unit and configured to adjust coiling pressure exerted on the conductor material by adjusting hydraulic pressure on the axles; and

a conductor feeder mounted on the support, the feeder comprising a set of clamps such that the conductor to be coiled is positioned tangent to the vertical and horizontal wheels, thus eliminating traction tensions in the conductor as well as a risk of stretching the conductor during coiling.

8. (Previously presented) The system of claim 7, wherein the control unit transmits commands to the hydraulic cylinder to maintain the coiling pressure on the vertical and horizontal axles according to an acceptable pressure threshold.

9. (Previously presented) The system of claim 8, wherein the control unit determines the commands to transmit based upon a shape of a coil to be manufactured, a number of turns of a coil to be manufactured and any programmed stops for manual work on the coil.

10. (Previously presented) The system of claim 7, wherein the control unit further comprises a user interface having an input device.

11. (Previously presented) The system of claim 7, wherein the control unit further comprises an input/output interface for operably connecting to a communications network.

12. (Previously presented) The system of claim 8, wherein the control unit outputs data via the communications network, the data including at least one of dimensions of finished coils, coiling time, programmed stop time, set up time, and any alarms.

13. (Previously presented) A semi-automatic system for the manufacture of large electrical induction coils, comprising:

a control unit configured to receive measurements related to an electrical induction coil to be formed;

a pressure head operably connected to the control unit and mounted on a revolving arm about which the pressure head pivots between a resting position and a working position in response to a command from the control unit, wherein a size of the coil to be formed is known by the control unit during manufacture based upon a comparison by the control unit of a real position of at least a portion of the pressure head against a theoretical position of the at least a portion of the pressure head as determined by the control unit from the measurements, the pressure head having a plurality of vertical axles and a plurality of horizontal axles;

at least one hydraulic cylinder attached to the plurality of vertical and horizontal axles, the hydraulic cylinder operably connected to the control unit and configured to adjust coiling pressure exerted on the conductor material by adjusting hydraulic pressure on the plurality of vertical axles and the plurality of horizontal axles;

at least one vertical wheel mounted on each of the plurality of vertical axles and positioned to accept a conductor material and regulate height and flatness in a coil formed in the conductor material, wherein the at least one vertical wheel comprises a plurality of auxiliary horizontal discs positioned such that when the conductor material is fed into the pressure head the conductor material maintains contact with the at least one vertical wheel;

at least one horizontal wheel mounted on each of the plurality of horizontal axles and positioned to accept the conductor material and position the conductor material on top of a previously formed coil;

a conductor feeder mounted on the support, the feeder comprising a set of clamps such that the conductor to be coiled is positioned tangent to the vertical and horizontal wheels, thus eliminating traction tensions in the conductor as well as a risk of stretching the conductor during coiling.